



IP Phone Services Configuration

Using Cisco Unified Communications Manager Administration, you can define and/or maintain IP phone services that can display on supported Cisco Unified IP Phones models. IP phone services comprise XML applications or Cisco-signed Java MIDlets that enable the display of interactive content with text and graphics on some Cisco Unified IP Phones models.

Cisco Unified Communications Manager provides Cisco-provided default IP phone services, which install automatically with Cisco Unified Communications Manager. You can also create customized Cisco Unified IP Phone applications for your site.

After you configure the services, you can add services to the phones in the database, that is, if they are not classified as enterprise subscriptions, and you can assign the services to the Services, Directory, or Messages buttons/options, if the phone model supports these buttons/options. Users can log in to Cisco Unified CM User Options and subscribe to these services for their Cisco Unified IP Phones; that is, if these IP phone services are not classified as enterprise subscriptions.

This section covers the following topics:

- [IP Phone Service Configuration Settings, page 101-1](#)
- [IP Phone Service Parameter Settings, page 101-5](#)
- [Finding an IP Phone Service, page 101-6](#)
- [Configuring an IP Phone Service, page 101-9](#)
- [Deleting an IP Phone Service, page 101-10](#)
- [Configuring an IP Phone Service Parameter, page 101-11](#)
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- [Adding an IP Phone Service to a Phone Button, page 101-13](#)
- [Related Topics, page 101-14](#)

IP Phone Service Configuration Settings

Using Cisco Unified Communications Manager Administration, you define and maintain the list of IP phone services that can display on supported Cisco Unified IP Phones models. IP phone services comprise XML applications or Cisco-signed Java MIDlets that enable the display of interactive content with text and graphics on some Cisco Unified IP Phones models.

Cisco Unified Communications Manager provides Cisco-provided default IP phone services, which install automatically with Cisco Unified Communications Manager. You can also create customized Cisco Unified IP Phone applications for your site.

After you configure the services, you can add services to the phones in the database, that is, if they are not classified as enterprise subscriptions, and you can assign the services to the Services, Directory, or Messages buttons, if the phone model supports these buttons/options. Users can log in to Cisco Unified CM User Options and subscribe to these services for their Cisco Unified IP Phones; that is, if these IP phone services are not classified as enterprise subscriptions.

Table 101-1 describes the IP phone service configuration settings that display in the IP Phone Services Configuration window in Cisco Unified Communications Manager Administration. See **Table 101-2** for information about the IP phone service parameter settings. For more information about related procedures, see the “Related Topics” section on page 101-14.

Table 101-1 IP Phone Service Configuration Settings

Field	Description
Service Information	
Service Name	<p>Enter the name of the service. If the service is not marked as an enterprise subscription, the service name will display in areas where you can subscribe to a service; for example, under Cisco Unified CM User Options. Enter up to 32 characters for the service name.</p> <p>For Java MIDlet services, the service name must exactly match the name that is defined in the Java Application Descriptor (JAD) file.</p>
ASCII Service Name	Enter the name of the service to display if the phone cannot display Unicode.
Service Description	Enter a description of the content that the service provides. The description can include up to 50 characters in any language, but it cannot include double-quotes (“”), or single-quotes (‘’).
Service URL	<p>Enter the URL of the server where the IP phone services application is located. Make sure that this server remains independent of the servers in your Cisco Unified Communications Manager cluster. Do not specify a Cisco Unified Communications Manager server or any server that is associated with Cisco Unified Communications Manager (such as a TFTP server or directory database publisher server).</p> <p>For the services to be available, the phones in the Cisco Unified Communications Manager cluster must have network connectivity to the server.</p> <p>For Cisco-signed Java MIDlets, enter the location where the JAD file can be downloaded; for example, a web server or the backend application server to which the Java MIDlet communicates.</p> <p>For Cisco-provided default services, the service URL displays as Application:Cisco/<name of service> by default; for example, Application:Cisco/CorporateDirectory. If you modify the service URL for Cisco-provided default services, verify that you configured Both for the Service Provisioning setting, which displays in the Phone, Enterprise Parameter, and Common Phone Profile Configuration windows. For example, you use a custom corporate directory, so you change Application:Cisco/CorporateDirectory to the external service URL for your custom directory; in this case, change the Service Provisioning setting to Both.</p>

Table 101-1 IP Phone Service Configuration Settings (continued)

Field	Description
Secure-Service URL	<p>Enter the secure URL of the server where the Cisco Unified IP Phone services application is located. Make sure that this server remains independent of the servers in your Cisco Unified Communications Manager cluster. Do not specify a Cisco Unified Communications Manager server or any server that is associated with Cisco Unified Communications Manager (such as a TFTP server or publisher database server).</p> <p>For the services to be available, the phones in the Cisco Unified Communications Manager cluster must have network connectivity to the server.</p> <p>Note If you do not provide a Secure-Service URL, the device uses the nonsecure URL. If you provide both a secure URL and a nonsecure URL, the device chooses the appropriate URL, based on its capabilities.</p>
Service Category	<p>Select a service application type (XML or Java MIDlet).</p> <p>If you choose Java MIDlet, when the phone receives the updated configuration file, the phone retrieves the Cisco-signed MIDlet application (JAD and JAR) from the specified Service URL and installs the application.</p>
Service Type	<p>Choose whether the service is provisioned to the Services, Directories, or Messages button/option on the phone; that is, if the phone has these buttons/options. To determine whether your phone has these buttons/options, refer to the <i>Cisco Unified IP Phone Administration Guide</i> that supports your phone model.</p>
Service Vendor	<p>This field allows you to specify the vendor/manufacturer for the service. This field is optional for XML applications, but it is required for Cisco-signed Java MIDlets.</p> <p>For Cisco-signed Java MIDlets, the value that you enter in this field must exactly match the vendor that is defined in the MIDlet JAD file.</p> <p>This field displays as blank for Cisco-provided default services.</p> <p>You can enter up to 64 characters.</p>

Table 101-1 IP Phone Service Configuration Settings (continued)

Field	Description
Service Version	<p>Enter the version number for the application.</p> <p>For XML applications, this field is optional and is informational only. For Cisco-signed Java MIDlets, consider the following information:</p> <ul style="list-style-type: none"> • If you enter a version, the service version must exactly match the version that is defined in the JAD file. If you enter a version, the phone attempts to upgrade or downgrade the MIDlet if the version is different than what is installed on the phone. • If the field is blank, the version gets retrieved from the Service URL. Leaving the field blank ensures that the phone attempts to download the JAD file every time that the phone reregisters to Cisco Unified Communications Manager as well as every time that the Cisco-signed Java MIDlet is launched; this ensures that the phone always runs the latest version of the Cisco-signed Java MIDlet without you having to manually update the Service Version field. <p>This field displays as blank for Cisco-provided default services.</p> <p>You can enter numbers and periods in this field (up to 16 ASCII characters).</p>
Enable	<p>This check box allows you to enable or disable the service without removing the configuration from Cisco Unified Communications Manager Administration (and without removing the service from the database).</p> <p>Unchecking the check box removes the service from the phone configuration file and the phone.</p>
Enterprise Subscription	<p>This check box allows you to automatically provision the service to all devices in the cluster that can support the service. If you check this check box, you (or an end user) cannot subscribe to the service.</p> <p>If this check box is unchecked, you must manually subscribe to the service for it to display on the phone (either in the Phone Configuration window, in BAT, or in the Cisco Unified CM User Options).</p> <p>Tip This setting displays only when you configure a service for the first time. After you save the service, the check box does not display in the window.</p> <p>To identify whether the service is provisioned to all devices in the cluster that can support the service, go to the Find and List IP Phone Services window and display the services. If true displays in the Enterprise Subscription column, you cannot manually subscribe to the service. If false displays, you can manually subscribe to the service; for example, an end user can subscribe to the service through the Cisco Unified CM User Options.</p>

Table 101-1 IP Phone Service Configuration Settings (continued)

Field	Description
Service Parameter Information	
Parameters	<p>This pane lists the service parameters that apply to this IP Phone service. Use the following buttons to configure service parameters for this pane:</p> <ul style="list-style-type: none"> • New Parameter—Click this button to display the Configure Cisco Unified IP Phone Service Parameter window, where you configure a new service parameter for this IP phone service. • Edit Parameter—Highlight a service parameter that displays in the Parameters pane, then click this button to display the Configure Cisco Unified IP Phone Service Parameter window, where you can edit the selected service parameter for this IP phone service. • Delete Parameter—Highlight a service parameter that displays in the Parameters pane, then click this button to delete a service parameter for this IP phone service. A popup window asks you to confirm deletion. <p>Refer to the “IP Phone Service Parameter Settings” section on page 101-5 for details of configuring service parameters for an IP phone service.</p>

IP Phone Service Parameter Settings

Add the phone service before you configure IP phone service parameters. Refer to the documentation for the individual IP phone service for specific information about whether the service uses parameters, how those parameters should be configured, and whether you should provide optional parameter definitions.



If you remove an IP phone service parameter or change the parameter name of a phone service for a phone service to which users are subscribed, be sure to click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

When you subscribe devices to the IP phone service, an error results if you click Update Subscriptions more than once. When you update many phones, it can take some time for the changes to propagate to all devices. Click Update Subscriptions only once and wait for this propagation to complete.

Table 101-2 describes the IP phone service parameter settings. For more information about related procedures, see the “Related Topics” section on [page 101-14](#).

Table 101-2 IP Phone Service Parameter Settings

Field	Description
Service Parameter Information	
Parameter Name	Enter the exact query string parameter to use when you build the subscription URL; for example, symbol.
Parameter Display Name	Enter a descriptive parameter name to display to the user in Cisco Unified CM User Options; for example, Ticker Symbol.
Default Value	Enter the default value for the parameter. This value displays to the user when a service is being subscribed to for the first time; for example, CSCO.
Parameter Description	<p>Enter a description of the parameter. The user can access the text that is entered here while the user is subscribing to the service. The parameter description should provide information or examples to help users input the correct value for the parameter.</p> <p>The description can include up to 50 characters in any language, but it cannot include double-quotes ("), percentage sign (%), or angle brackets (<>).</p>
Parameter is Required	If the user must enter data for this parameter before the subscription can be saved, check the Parameter is Required check box.
Parameter is a Password (mask contents)	You can mask entries in Cisco Unified CM User Options, so asterisks display rather than the actual user entry. You may want to do this for parameters such as passwords that you do not want others to be able to view. To mask parameter entry, check the Parameter is a Password (mask contents) check box in the Configure IP phone service Parameter window in Cisco Unified Communications Manager Administration.

Finding an IP Phone Service

Because you might have several IP phone services in your network, Cisco Unified Communications Manager lets you locate specific IP phone services on the basis of specific criteria. Use the following procedure to locate IP phone services.


Note

During your work in a browser session, Cisco Unified Communications Manager Administration retains your IP phone service search preferences. If you navigate to other menu items and return to this menu item, Cisco Unified Communications Manager Administration retains your IP phone service search preferences until you modify your search or close the browser.

Procedure
Step 1 Choose **Device >Device Settings > Phone Services**.

The Find and List IP Phone Services window displays. Records from an active (prior) query may also display in the window.

Step 2 To find all records in the database, ensure the dialog box is empty; go to [Step 3](#).

To filter or search records

- From the first drop-down list box, select a search parameter.
- From the second drop-down list box, select a search pattern.
- Specify the appropriate search text, if applicable.



Note To add additional search criteria, click the + button. When you add criteria, the system searches for a record that matches all criteria that you specify. To remove criteria, click the – button to remove the last added criterion or click the **Clear Filter** button to remove all added search criteria.

Step 3 Click **Find**.

All matching records display. You can change the number of items that display on each page by choosing a different value from the Rows per Page drop-down list box. (For Cisco-provided default IP phone services, see [Table 101-3](#).)



Note You can delete multiple records from the database by checking the check boxes next to the appropriate record and clicking **Delete Selected**. You can delete all configurable records for this selection by clicking **Select All** and then clicking **Delete Selected**.

Step 4 From the list of records that display, click the link for the record that you want to view.



Note To reverse the sort order, click the up or down arrow, if available, in the list header.

The window displays the item that you choose.

Cisco-provided Default IP Phone Services

[Table 101-3](#) displays the Cisco-provided default IP phone services that display if you specify the search parameter, IP Phone Service, and then click **Find**. Cisco Unified Communications Manager automatically provisions the Cisco-provided default services in [Table 101-3](#). To update these services, click the link in the Find and List IP Phone Service window. You can change the name of the service, where the default service displays on the phone, and the service URL. If you change the service URL for the default services, choose **Both** from the Service Provisioning drop-down list box, which displays in the Phone Configuration window, the Enterprise Parameter Configuration window, and the Common Phone Profile Configuration window.



Tip Some Cisco Unified IP Phone models do not support IP phone services. To determine the support for your phone model, refer to the *Cisco Unified IP Phone Administration Guide*.

Table 101-3 Cisco-provided Default Services

Default Services	Description
Corporate Directory	<p>This XML service allows the phone to display the corporate directory on the phone. By default, for phones with a Directory button/option, the corporate directory option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/CorporateDirectory. By default, the corporate directory automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.</p> <p>If you update the corporate directory option because you want to configure this option to support a custom directory, for example, you update the Service URL to point to your custom directory, make sure that Both is chosen from the Service Provisioning drop-down list box, which displays in the Phone Configuration window, Enterprise Parameter Configuration window, or the Common Phone Profile Configuration window.</p>
Intercom Calls	<p>This XML service allows the phone to display the history records for intercom calls. By default, for phones with a Directory button/option, the intercom history option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/IntercomCalls. This service does not automatically display on all phones that support services in the cluster; therefore, you must manually subscribe to the service; for example, you can subscribe to the service in the Cisco Unified CM User Options.</p>
Missed Calls	<p>This XML service allows the phone to display missed calls on the phone. By default, for phones with a Directory button/option, the missed calls option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/MissedCalls. By default, the Missed Calls option automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.</p>
Personal Directory	<p>This XML service allows a phone user to use Personal Directory. By default, for phones with a Directory button/option, the Personal Directory option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/PersonalDirectory. By default, the Personal Directory option automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.</p>
Placed Calls	<p>This XML service allows the phone to display calls that the user has placed on the phone. By default, for phones with a Directory button/option, the placed calls option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/PlacedCalls. By default, the Placed Calls option automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.</p>

Table 101-3 Cisco-provided Default Services (continued)

Default Services	Description
Received Calls	This XML service allows the phone to display received calls on the phone. By default, for phones with a Directory button/option, the received calls option displays when a user presses the Directory button/option on the phone. By default, the service URL is Application:Cisco/ReceivedCalls. By default, the Received Calls option automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.
Voicemail	This XML service allows users to retrieve voice messages on the phone. By default, for phones with a Messages button/option, the voice mail option displays when a user presses the Messages button/option on the phone. By default, the service URL is Application:Cisco/Voicemail. By default, the Voicemail option automatically displays on all phones that support services in the cluster, and you (or the end user) cannot subscribe to the service.

Additional Information

See the “[Related Topics](#)” section on page 101-14.

Configuring an IP Phone Service

Perform the following steps to add or update an IP phone service.

**Caution**

Do not put IP phone services on any Cisco Unified Communications Manager server at your site or any server that is associated with Cisco Unified Communications Manager, such as the TFTP server or publisher database server. This precaution eliminates the possibility that errors in an IP phone service application will have an impact on Cisco Unified Communications Manager performance or interrupt call-processing services.

Procedure**Step 1** Choose **Device >Device Settings > Phone Services**.

The Find and List IP Phone Services window displays.

Step 2 Perform one of the followings tasks:

- To add an IP phone service, click the **Add New** button. The IP phone services Configuration window displays. Continue with **Step 3**.
- To update an existing IP phone service (for example, to change the service URL or other information), locate the appropriate IP phone service as described in “[Finding an IP Phone Service](#)” section on page 101-6. Click the name of the IP phone service that you want to update and continue with **Step 3**.

Step 3 Enter the appropriate settings as described in [Table 101-1](#).

Step 4 Click **Save**.

You can add, update, or delete parameters as needed as described in “Configuring an IP Phone Service Parameter” section on page 101-11 and “Deleting an IP Phone Service Parameter” section on page 101-12.

Step 5 To apply the changes, update the IP phone services Configuration window:

- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the Parameter Name for a phone service parameter.



Note If you change the service URL, remove an IP phone service parameter, or change the name of a phone service parameter for a phone service to which users are subscribed, be sure to click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

- If the service is new and you do not need to rebuild user subscriptions, click **Save**.

Next Steps

Configure the Services Provisioning setting, which displays in the Phone Configuration window, Common Phone Profile Configuration window, or Enterprise Parameter Configuration window.

Additional Information

See the “Related Topics” section on page 101-14.

Deleting an IP Phone Service

**Tip**

Cisco strongly recommends that you disable phone services, instead of deleting these services from Cisco Unified Communications Manager Administration. Disabling the phone service does not remove the service from the database, but it does ensure that the service does not display on the phone. Deleting the service removes the service from the database. You disable a phone service in the IP Phone Services Configuration window (Device > Device Settings > Phone Services) for the service that you want to disable.

Perform the following steps to delete an IP phone service.

Before You Begin

When you delete an IP phone service, Cisco Unified Communications Manager removes all service information, user subscriptions, and user subscription data from the database. To find out which devices are using the IP phone service, from the IP phone service Configuration window, choose **Dependency Records** from the Related Records drop-down list box and click **Go**. If the dependency records are not enabled for the system, the dependency records summary window displays a message. For more information about dependency records, see the “Accessing Dependency Records” section on page A-2.

If you try to delete an IP phone service that is in use, Cisco Unified Communications Manager displays a message. Before deleting an IP phone service that is currently in use, you must perform either or both of the following tasks:

- Assign a different IP phone service to any devices that are using the IP phone service that you want to delete. See the “[Deleting a Phone](#)” section on page 92-37.
- Delete the devices that are using the IP phone service that you want to delete. See the “[Deleting a Phone](#)” section on page 92-37.

Procedure

- Step 1** Find the IP phone service by using the procedure in the “[Finding an IP Phone Service](#)” section on page 101-6.
- Step 2** Click the name of the IP phone service that you want to delete.
The IP phone services Configuration window displays.
- Step 3** Click **Delete**.
You receive a message that asks you to confirm the deletion.
- Step 4** Click **OK**.
The window refreshes, and the IP phone service gets deleted from the database.
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Additional Information

See the “[Related Topics](#)” section on page 101-14.

Configuring an IP Phone Service Parameter

Use the following procedure to add and configure or update IP phone service parameters. Add the phone service before you configure parameters. Refer to the documentation for the individual IP phone service for specific information about whether the service uses parameters, how those parameters should be configured, and whether you should provide optional parameter definitions.

Procedure

- Step 1** Find the IP phone service by using the procedure in the “[Finding an IP Phone Service](#)” section on page 101-6.
- Step 2** From the IP phone services list, choose the service to which you want to add parameters or update existing parameters.
The IP phone services Configuration window displays.
- Step 3** Perform one of the followings tasks:
 - To add a new phone service parameter, click the **New** button to the right of the Parameters list box. The Configure IP phone service Parameter window displays. Continue with **Step 4**.
 - To update an existing parameter, choose the name of the parameter that you want to update in the Parameters list box. Click **Edit** and continue with **Step 4**.

■ Deleting an IP Phone Service Parameter

- Step 4** Enter the appropriate settings as described in [Table 101-2](#).

To add the new parameter, click **Save**. To add additional parameters, if needed, click **Add New** in the Configure IP phone service Parameter window and repeat [Step 3](#) and [Step 4](#). To add the last parameter, click **Save and Close**.

To apply the changes to the updated parameters, click **Save**, or to apply the changes and close the window, click **Save and Close**.

- Step 5** To apply the changes, update the IP phone services Configuration window:

- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the name for a phone service parameter.



Note If you remove an IP phone service parameter or change the parameter name of a phone service for a phone service to which users are subscribed, be sure to click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

When you subscribe devices to the IP phone service, an error results if you click Update Subscriptions more than once. When you update many phones, it can take some time for the changes to propagate to all devices. Click Update Subscriptions only once and wait for this propagation to complete.

- If the service is new and you do not need to rebuild user subscriptions, click **Save**.

Additional Information

See the “[Related Topics](#)” section on page 101-14.

Deleting an IP Phone Service Parameter

Perform the following steps to delete an IP phone service parameter.



Note If you remove a phone service parameter or modify the Parameter Name of a phone service parameter for a phone service to which users are subscribed, you must click **Update Subscriptions** to update all currently subscribed users with the changes. If you do not do so, users must resubscribe to the service to rebuild the URL correctly.

Procedure

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- Step 1** Find the IP phone service by using the procedure in the “[Finding an IP Phone Service](#)” section on [page 101-6](#).
- Step 2** From the IP phone services list, choose the phone service whose parameters you want to delete.
- Step 3** In the Parameters list box, choose the name of the parameter that you want to delete.
- Step 4** Click **Delete Parameter**.

You receive a message that asks you to confirm the deletion.

Step 5 To confirm the deletion, click **OK**.

Step 6 To apply the changes, update the IP phone services configuration window:

- If the service was modified after subscriptions existed, click **Update Subscriptions** to rebuild all user subscriptions. You must update subscriptions if you changed the service URL, removed a phone service parameter, or changed the Parameter Name for a phone service parameter.

If you click Update Subscriptions more than once, an error occurs. When you update many phones, it can take some time for the changes to propagate to all devices. You must click Update Subscriptions only once and wait for this propagation to complete.

- If the service is new and you do not need to rebuild user subscriptions, click **Save**.
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Additional Information

See the “[Related Topics](#)” section on page 101-14.

Adding an IP Phone Service to a Phone Button

If you want to do so, you can assign the service to a phone button (a speed dial button) that is configured as a service URL.

By default, the phone service can display under the Directory, Message, or Services button/options on the phone, depending on your configuration in the IP Phone Services Configuration window, so you only need to add a phone service to a phone button if you want the service to display as a speed dial.

You can only perform this procedure for phone services that are not marked as enterprise subscriptions. Perform the following steps to add a service to a service URL button:

Procedure

Step 1 Add the service to Cisco Unified Communications Manager (see [Configuring an IP Phone Service](#), page 101-9).

Step 2 Customize a phone button template by configuring a Service URL button (refer to the “[Configuring Phone Button Templates](#)” section on page 99-3).

Step 3 Add the customized phone button template to the phone (refer to the “[Configuring Cisco Unified IP Phones](#)” section on page 92-31).

Step 4 Subscribe the service to the phone (refer to the “[Configuring IP Phone Services](#)” section on page 92-39).

Step 5 Add the service URL to a phone button (refer to the “[Configuring Service URL Buttons](#)” section on page 92-41).

Additional Information

See the “[Related Topics](#)” section on page 101-14.

Related Topics

- [IP Phone Service Configuration Settings, page 101-1](#)
- [IP Phone Service Parameter Settings, page 101-5](#)
- [Finding an IP Phone Service, page 101-6](#)
- [Configuring an IP Phone Service, page 101-9](#)
- [Deleting an IP Phone Service, page 101-10](#)
- [Configuring an IP Phone Service Parameter, page 101-11](#)
- [Deleting an IP Phone Service Parameter, page 101-12](#)
- [Adding an IP Phone Service to a Phone Button, page 101-13](#)
- [*Cisco Unified IP Phone Services, Cisco Unified Communications Manager System Guide*](#)
- [*Cisco Unified IP Phone Administration Guide*](#)